R307. Environmental Quality, Air Quality.
R307-343. Ozone Nonattainment and Maintenance Areas: Emissions Standards for Wood Furniture Manufacturing Operations.
R307-343-1. Purpose.

[~~(1)~~]The purpose of R307-343 is to limit volatile organic compound (VOC) emissions from wood furniture manufacturing sources located in any ozone nonattainment or maintenance area[~~s~~].

R307-343-2. Applicability.

Provisions of R307-343 apply to each wood furniture manufacturing source that is not an incidental wood furniture manufacturer, has the potential to emit 25 tons or more per year of [~~volatile organic compounds~~]VOCs and is located in any ozone nonattainment or maintenance area.

R307-343-3. Definitions.

The following additional definitions apply to R307-343:

"Affected Source" means a wood furniture manufacturing source that meets the criteria in R307-343-2.

"Alternate Method" means any method of sampling and analyzing for an air pollutant that is not a reference or equivalent method but that has been demonstrated to the executive secretary's satisfaction to, in specific cases, produce results adequate for a determination of compliance.

"As Applied" means the [~~volatile organic compound~~]VOC and solids content of the finishing material that is actually used for coating the substrate. It includes the contribution of materials used for in-house dilution of the finishing material.

"Basecoat" means a coat of colored material, usually opaque, that is applied before graining inks, glazing coats, or other opaque finishing materials, and is usually topcoated for protection.

"Capture Device" means a hood, enclosed room, floor sweep, or other means of collecting solvent emissions or other pollutants into a duct so that the pollutant can be directed to a pollution control device such as an incinerator or carbon adsorber.

"Capture Efficiency" means the fraction of all organic vapors generated by a process that is directed to a control device.

"Certified Product Data Sheet (CPDS)" means documentation furnished by a coating supplier or an outside laboratory that provides the [~~volatile organic compound~~]VOC content by percent weight, the solids content by percent weight, and the density of a finishing material, strippable booth coating, or solvent, measured using EPA Method 24 or an equivalent or alternate method, or formulation data if the coating meets the criteria specified in R307-343-7(1). The purpose of the CPDS is to assist the affected source in demonstrating compliance with the emission limitations presented in Subsection R307-343-4.

"Cleaning Operations" means operations in which organic solvent is used to remove coating materials from equipment used in wood furniture manufacturing operations.

"Coating" means a protective, decorative, or functional material applied in a thin layer to a surface. Such materials may include paints, topcoats, varnishes, sealers, stains, washcoats, basecoats, inks, and temporary protective coatings.

"Compliant Coating" means a finishing material or strippable booth coating that meets the emission limits specified in R307-343-4(1).

"Continuous Coater" means a finishing system that continuously applies finishing materials onto furniture parts moving along a conveyor system. Finishing materials that are not transferred to the part are recycled to the finishing material reservoir. Several types of application methods can be used with a continuous coater including spraying, curtain coating, roll coating, dip coating, and flow coating.

"Continuous Compliance" means that the affected source meets the emission limitations and other requirements of R307-343 at all times and fulfills all monitoring and recordkeeping provisions of R307-343 in order to demonstrate compliance.

"Control Device" means any equipment that reduces the quantity of a pollutant that is emitted to the air. The device may destroy or secure the pollutant for subsequent recovery. Control devices include, but are not limited to, incinerators, carbon adsorbers, and condensers.

"Control Device Efficiency" means the ratio of the pollution released by a control device and the pollution introduced to the control device, expressed as a fraction.

"Control System" means the combination of capture and control devices used to reduce emissions to the atmosphere.

"Conventional Air Spray" means a spray coating method in which the coating is atomized by mixing it with compressed air at an air pressure greater than 10 pounds per square inch (gauge) at the point of atomization. Airless, air assisted airless spray technologies, and electrostatic spray technology are not considered conventional air spray.

"Day" means a period of 24 consecutive hours beginning at midnight local time, or beginning at a time consistent with a source's operating schedule.

"Emission" means the direct or indirect release or discharge of [~~volatile organic compound~~]VOCs into the ambient air.

"Equipment Leak" means emissions of [~~volatile organic compounds~~]VOCs from pumps, valves, flanges, or other equipment used to transfer or apply finishing materials or organic solvents.

"Equivalent Method" means any method of sampling and analyzing for an air pollutant that has been demonstrated to the executive secretary's satisfaction to have a consistent and quantitatively known relationship to the reference method under specific conditions.

"Finishing Application Station" means the part of a finishing operation where the finishing material is applied, such as a spray booth.

"Finishing Material" means a coating used in the wood

furniture industry, including basecoats, stains, washcoats, sealers, and topcoats.

"Finishing Operation" means those activities in which a finishing material is applied to a substrate and is subsequently air-dried, cured in an oven, or cured by radiation.

"Incidental [~~w~~]Wood [~~f~~]Furniture [~~m~~]Manufacturer" means a major source as defined in 40 CFR 63.2 that is primarily engaged in the manufacture of products other than wood furniture or wood furniture components and that uses no more than 100 gallons per month of finishing material in the manufacture of wood furniture or wood furniture components.

"Incinerator" means an enclosed combustion device that thermally oxidizes [~~volatile organic compounds~~]VOCs to carbon monoxide and carbon dioxide. This term does not include devices that burn municipal or hazardous waste material.

"Noncompliant Coating" means a finishing material or strippable booth coating that has a [~~volatile organic compound~~]VOC content greater than the emission limitation specified in Subsection R307-343-4(1).

"Normally Closed Container" means a container that is closed unless an operator is actively engaged in activities such as emptying or filling the container.

"Operating Parameter Value" means a minimum or maximum value established for a control device or process parameter that, if achieved by itself or in combination with one or more other operating parameter values, determines that an owner or operator has complied with an applicable emission limit.

"Organic Solvent" means a liquid containing [~~volatile organic compounds~~]VOCs that is used for dissolving or dispersing constituents in a coating, adjusting the viscosity of a coating, cleaning, or washoff. When used in a coating, the organic solvent evaporates during drying and does not become a part of the dried film.

"Overall Control Efficiency" means the efficiency of a control system, calculated as the product of the capture and control device efficiencies, expressed as a percentage.

"Permanent Total Enclosure" means a permanently installed enclosure that completely surrounds a source of emissions such that all emissions are captured and contained for discharge through a control device, and that meets the criteria presented in Subsection R307-343-7(5)(a)(i) through (iv).

"Reference Method" means any method of sampling and analyzing for an air pollutant that is published in Appendix A of 40 CFR 60.

"Responsible Official" has the same meaning as in R307-415, Operating Permit Requirements.

"Sealer" means a finishing material used to seal the pores of a wood substrate before additional coats of finishing material are applied. A washcoat used to optimize aesthetics is not a sealer.

"Solids" means the part of the coating that remains after the coating is dried or cured; solids content is determined using data from EPA Method 24, or an alternate or equivalent method approved

by the executive secretary.

"Solvent" means a liquid used in a coating for dissolving or dispersing constituents in a coating, adjusting the viscosity of a coating, cleaning, or washoff. When used in a coating, it evaporates during drying and does not become a part of the dried film.

"Stain" means any color coat having a solids content by weight of no more than 8.0 percent that is applied in single or multiple coats directly to the substrate, including nongrain raising stains, equalizer stains, sap stains, body stains, no-wipe stains, penetrating stains, and toners.

"Strippable Booth Coating" means a coating that:

(1) is applied to a booth wall to provide a protective film to receive overspray during finishing operations;

(2) is subsequently peeled off and disposed; and

(3) by achieving (1) and (2), reduces or eliminates the need to use organic solvents to clean booth walls.

"Substrate" means the surface onto which coatings are applied, or into which coatings are impregnated.

"Temporary Total Enclosure" means an enclosure that meets the requirements of Subsection R307-343-7(5)(a)(i) through (iv) and is not permanent, but is constructed only to measure the capture efficiency of pollutants emitted from a given source. Additionally, any exhaust point from the enclosure shall be at least 4 equivalent duct or hood diameters from each natural draft opening.

"Topcoat" means the last film-building finishing material applied in a finishing system. Non-permanent final finishes are not topcoats.

"Touch-up and Repair" means the application of finishing materials to cover minor finishing imperfections.

"Washcoat" means a transparent special purpose coating having a solids content by weight of 12.0 percent or less that is applied over initial stains to protect and control color and to stiffen the wood fibers in order to aid sanding.

"Washoff Operations" means those operations in which organic solvent is used to remove coating from a substrate.

"Wood Furniture" means any product made of wood, a wood product such as rattan or wicker, or an engineered wood product such as particleboard that is manufactured under any of the following standard industrial classification codes: 2434, 2511, 2512, 2517, 2519, 2521, 2531, 2541, 2599, or 5712.

"Wood Furniture Manufacturing Operations" means the finishing, cleaning, and washoff operations associated with the production of wood furniture or wood furniture components.

"Working Day" means a day, or any part of a day, in which a source is engaged in manufacturing.

R307-343-4. Emission Standards.

(1) Each owner or operator of an affected source subject to R307-343 shall limit [~~volatile organic compound~~]VOC emissions from

finishing operations. Methods in (a) through (e) below are accepted.

(a) Use topcoats with a [~~volatile organic compound~~]VOC content no greater than 0.8 kilogram per kilogram of solids, as applied; or

(b) Use a finishing system of sealers with a [~~volatile organic compound~~]VOC content no greater than 1.9 kilograms per kilogram of solids, as applied, and topcoats with a [~~volatile organic compound~~]VOC content no greater than 1.8 kilograms per kilogram of solids, as applied; or

(c) For affected sources using acid-cured alkyd amino vinyl sealers or acid-cured alkyd amino conversion varnish topcoats, use sealers and topcoats based on the following criteria:

(i) If the affected source is using acid-cured alkyd amino vinyl sealers and acid-cured alkyd amino conversion varnish topcoats, the sealer shall contain no more than 2.3 kilograms of [~~volatile organic compound~~]VOC per kilogram of solids, as applied, and the topcoat shall contain no more than 2.0 kilograms of [~~volatile organic compound~~]VOC per kilogram of solids, as applied;

(ii) If the affected source is using a sealer other than an acid-cured alkyd amino vinyl sealer and acid-cured alkyd amino conversion varnish topcoats, the sealer shall contain no more than 1.9 kilograms of [~~volatile organic compound~~]VOC per kilogram of solids, as applied, and the topcoat shall contain no more than 2.0 kilograms of [~~volatile organic compound~~]VOC per kilogram of solids, as applied; or

(iii) if the affected source is using an acid-cured alkyd amino vinyl sealer and a topcoat other than an acid-cured alkyd amino conversion varnish topcoat, the sealer shall contain no more than 2.3 kilograms of [~~volatile organic compound~~]VOC per kilogram of solids, as applied, and the topcoat shall contain no more than 1.8 kilograms of [~~volatile organic compound~~]VOC per kilogram of solids, as applied; or

(d) Use a control system that will achieve an equivalent reduction in emissions as the requirements of Subsection R307-343-4(1)(a) or (b), as calculated using the compliance provisions in R307-343-6(2), as appropriate; or

(e) Use a combination of the methods presented in (a) through (d) above.

(2) Each owner or operator of an affected source subject to R307-343 shall limit [~~volatile organic compound~~]VOC emissions from cleaning operations when using a strippable booth coating. A strippable booth coating shall contain no more than 0.8 kilogram of [~~volatile organic compound~~]VOC per kilogram of solids, as applied.

R307-343-5. Work Practice Standards.

(1) Work Practice Implementation Plan.[~~(a)~~] Each owner or operator of an affected source subject to R307-343 shall prepare and maintain a written work practice implementation plan that defines environmentally desirable work

practices for each wood furniture manufacturing operation and addresses each of the topics specified in R307-343-5(2) through (10). The owner or operator of the affected source shall comply with each provision of the work practice implementation plan. The written work practice implementation plan shall be available for inspection by the executive secretary, upon request. If the executive secretary determines that the work practice implementation plan does not adequately address each of the topics specified in (2) through (10) below or that the plan does not include sufficient mechanisms for ensuring that the work practice standards are being implemented, the executive secretary may require the affected source to modify the plan.

(2) Operator Training.

(a) Each owner or operator of an affected source shall train new and existing personnel, including contract workers, who are involved in finishing, gluing, cleaning, or washoff operations, use of manufacturing equipment, or implementation of the requirements of R307-343. All new personnel, those hired after June 2, 1999, shall be trained upon hiring. All existing personnel, those hired before June 2, 1999, shall be trained by December 4, 1999. All personnel shall be given refresher training annually.

(b) The affected source shall maintain a copy of the training program with the work practice implementation plan. The training program shall include, at a minimum, the following:

(i) A list of all current personnel by name and job description that are required to be trained;

(ii) An outline of the subjects to be covered in the initial and refresher training for each position or group of personnel;

(iii) Lesson plans for courses to be given at the initial and the annual refresher training that include, at a minimum, appropriate application techniques, appropriate cleaning and washoff procedures, appropriate equipment setup and adjustment to minimize finishing material usage and overspray, and appropriate management of cleanup wastes; and

(iv) A description of the methods to be used at the completion of initial or refresher training to demonstrate and document successful completion and a record of the training date for all personnel.

(3) Leak Inspection and Maintenance Plan. Each owner or operator of an affected source shall prepare and maintain with the work practice implementation plan a written leak inspection and maintenance plan that specifies:

(a) A minimum visual inspection frequency of once per month for all equipment used to transfer or apply finishing materials, or organic solvents;

(b) An inspection schedule;

(c) Methods for documenting the date and results of each inspection and any repairs that were made;

(d) The time elapsed between identifying the leak and making the repair, using at a minimum the following schedule:

(i) A first attempt at repair, such as tightening of packing glands, shall be made no later than five working days after the leak is detected; and

(ii) Final repairs shall be made within 15 working days, unless the leaking equipment is to be replaced by a new purchase, in which case repairs shall be completed within three months.

(4) Cleaning and Washoff Solvent Accounting System. Each owner or operator of an affected source shall develop an organic solvent accounting form to record:

(a) The quantity and type of organic solvent used each month for washoff and cleaning;

(b) The number of pieces washed off each month, and the reason for the washoff; and

(c) The net quantity of spent organic solvent generated from each washoff and cleaning operation each month, and whether it is recycled onsite or disposed offsite. The net quantity of spent solvent is equivalent to the total amount of organic solvent that is generated from the activity minus any organic solvent that is reused onsite for operations other than cleaning or washoff and any organic solvent that was sent offsite for disposal.

(5) Spray Booth Cleaning. Each owner or operator of an affected source shall not use compounds containing more than 8.0 percent by weight of [~~volatile organic compound~~]VOCs for cleaning spray booth components other than conveyors, continuous coaters and their enclosures, or metal filters, unless the spray booth is being refurbished. If the spray booth is being refurbished, that is, the spray booth coating or other material used to cover the booth is being replaced, the affected source shall use no more than 1.0 gallon of organic solvent to prepare the booth prior to applying the booth coating.

(6) Storage Requirements. Each owner or operator of an affected source shall use normally closed containers for storing finishing, cleaning, and washoff materials.

(7) Application Equipment Requirements. Each owner or operator of an affected source shall use conventional air spray guns for applying finishing materials only under any of the following circumstances:

(a) To apply finishing materials that have a [~~volatile organic compound~~]VOC content no greater than 1.0 kilogram per kilogram of solids, as applied;

(b) For touch-up and repair under the following circumstances:

(i) The touchup and repair occurs after completion of the finishing operation; or

(ii) The touchup and repair occurs after the application of stain and before the application of any other type of finishing material, and the materials used for touchup and repair are applied from a container that has a volume of no more than 2.0 gallons.

(c) When the spray gun is aimed and triggered automatically, not manually;

(d) When the emissions from the finishing application station are directed to a control device;

(e) The conventional air gun is used to apply finishing materials and the cumulative total usage of that finishing material is no more than 5.0 percent of the total gallons of finishing material used during that semiannual reporting period; or

(f) The conventional air gun is used to apply stain on a part for which it is technically or economically infeasible to use any other spray application technology. The affected source shall demonstrate technical or economic infeasibility by submitting to the executive secretary a videotape, a technical report, or other documentation that supports the affected source's claim of technical or economic infeasibility. The following criteria shall be used, either independently or in combination, to support the affected source's claim of technical or economic infeasibility:

(i) The production speed is too high or the part shape is too complex for one operator to coat the part and the application station is not large enough to accommodate an additional operator; or

(ii) The excessively large vertical spray area of the part makes it difficult to avoid sagging or runs in the stain.

(8) Line Cleaning. Each owner or operator of an affected source shall pump or drain all organic solvent used for line cleaning into a normally closed container.

(9) Gun Cleaning. Each owner or operator of an affected source shall collect all organic solvent used to clean spray guns into a normally closed container.

(10) Washoff Operations. Each owner or operator of an affected source shall control emissions from washoff operations by using normally closed tanks for washoff and minimizing dripping by tilting or rotating the part to drain as much organic solvent as possible.

R307-343-6. Compliance Procedures and Monitoring Requirements.

(1) Methodology. Terms and equations required in the calculation of compliance are found in Appendix B, "Control of Organic Compound Emissions from Wood Furniture Manufacturing Operations." EPA-453/R-96-007, April 1996. The terms found in B.3(b) on pages B-10 and B-11, Equation 3 on page B-18, Equations 4, 5, 6, and 7 on pages B-26 and B-27 are hereby adopted and incorporated by reference. Copies are available at the Division of Air Quality, the Division of Administrative Rules and most state depository libraries.

(2) General Compliance. The owner or operator of an affected source subject to the emission standards in Section R307-343-4 shall demonstrate compliance with those provisions by using any of the methods in (a) or (b) below.

(a) To demonstrate compliance with emission standards in R307-343-4(1)(a), (b), or (c) or R307-343-4(2), maintain certified product data sheets for each of these finishing materials and

strippable booth coatings. If solvent or other [~~volatile organic compound~~]VOCs [~~is~~]are added to the finishing material before application, the affected source shall maintain documentation showing the [~~volatile organic compound~~]VOC content of the finishing material as applied, in kilograms of [~~volatile organic compound~~]VOCs per kilogram of solids.

(b) To comply through the use of a control system as specified in R307-343-4(1)(d):

(i) Determine the overall control efficiency needed to demonstrate compliance using Equation 3.

(ii) Document that the amount of [~~volatile organic compound~~]VOCs in Equation 3 is obtained from the [~~volatile organic compound~~]VOC and solids content of the finishing material as applied;

(iii) Calculate the overall efficiency of the control device, using the procedures in R307-343-7(4) or (5), and demonstrate that the overall efficiency of the control device calculated by Equation 6 is equal to or greater than the overall efficiency of the control device calculated by Equation 3.

(3) Initial Compliance. The owner or operator of each affected source shall demonstrate compliance by submitting an initial compliance status report.

(a) Each owner or operator of an affected source that complies through the procedures established in (2)(a) above shall submit an initial compliance status report stating that compliant sealers, topcoats and strippable booth coatings are being used by the affected source.

(b) Each owner or operator of an affected source that complies by using the procedures in R307-343-6(2)(a) and applies sealers or topcoats using continuous coaters shall:

(i) Submit an initial compliance status report stating that compliant sealers or topcoats, as determined by the [~~volatile organic compound~~]VOC content of the finishing material in the reservoir and the [~~volatile organic compound~~]VOC content as calculated from records, are used; or

(ii) Submit an initial compliance status report stating that compliant sealers or topcoats, as determined by the [~~volatile organic compound~~]VOC content of the finishing material in the reservoir, are used and the viscosity of the finishing material in the reservoir is being monitored. The affected source also shall provide data that demonstrates the correlation between the viscosity of the finishing material and the [~~volatile organic compound~~]VOC content of the finishing material in the reservoir.

(c) Each owner or operator of an affected source using a control system, capture device or control device to comply with the requirements of R307-343, as allowed by R307-343-4(1)(d) and R307-343-6(2)(b), shall:

(i) Submit a monitoring plan that identifies the operating parameter to be monitored for the capture device and demonstrates why the parameter is appropriate to show ongoing compliance;

(ii) Conduct an initial performance test using the

procedures and test methods listed in R307-343-7(3) and (4) or (5);

(iii) Calculate the overall control efficiency using Equation 6; and

(iv) Determine those operating conditions that are critical to determining compliance and establishing operating parameters that will ensure compliance with the standard, as follows:

(A) For a thermal incinerator, use minimum combustion temperature;

(B) For a catalytic incinerator equipped with a fixed catalyst bed, use the minimum gas temperature both upstream and downstream of the catalyst bed,

(C) For a catalytic incinerator equipped with a fluidized catalyst bed, use the minimum gas temperature upstream of the catalyst bed and the pressure drop across the catalyst bed;

(D) For a carbon adsorber, use either the total regeneration mass stream flow for each regeneration cycle and the carbon bed temperature after each regeneration, or the concentration level of organic compounds exiting the adsorber, unless the owner or operator requests and receives approval from the executive secretary to establish other operating parameters;

(E) For a control device not listed in (A) through (D) above, the operating parameter shall be established using the procedures in R307-343-6(4)(c)(vi).

(v) Each owner or operator complying with R307-343-6(3)(c) shall calculate the site-specific operating parameter value as the arithmetic average of the maximum or minimum operating parameter values, as appropriate, that demonstrate compliance with the standards, during the three test runs required by R307-343-7(3)(a).

(d) Each owner or operator of an affected source subject to the work practice standards in R307-343-5 shall submit an initial compliance status report, as required by R307-343-9[~~(2)~~](1), stating that the work practice implementation plan has been developed and procedures have been established for implementing the provisions of the plan.

(4) Continuous Compliance Demonstrations.

(a) Each owner or operator of an affected source subject to the provisions of R307-343-4 that comply using the procedures established in R307-343-6(2)(a) shall demonstrate continuous compliance by using compliant materials, maintaining records that demonstrate the materials are compliant, and submitting a compliance certification with the semiannual report required by R307-343-9[~~(3)~~](2).

(i) The compliance certification shall state that compliant sealers, topcoats and strippable booth coatings have been used during the semiannual reporting period, or should otherwise identify the days of noncompliance and the reasons for noncompliance.

(ii) The compliance certification shall be signed by a responsible official.

(b) Each owner or operator of an affected source subject to the provisions of R307-343-4 that comply using the procedures established in R307-343-6(2)(a) and applies sealers or topcoats using continuous coaters shall demonstrate continuous compliance by following the procedures in (i) or (ii) below.

(i) Use compliant materials, as determined by the [~~volatile organic compound~~]VOC content of the finishing material in the reservoir and the [~~volatile organic compound~~]VOC content as calculated from records, and submit a compliance certification with the semiannual report required by R307-343-9[~~(3)~~](2).

(A) The compliance certification shall state that compliant sealers and topcoats have been used during the semiannual reporting period, or should otherwise identify the days of noncompliance and the reasons for noncompliance.

(B) The compliance certification shall be signed by a responsible official.

(ii) Use compliant materials, as determined by the [~~volatile organic compound~~]VOC content of the finishing material in the reservoir, maintaining a viscosity of the finishing material in the reservoir that is no less than the viscosity of the initial finishing material by monitoring the viscosity with a viscosity meter or by testing the viscosity of the initial finishing material and retesting the material in the reservoir each time solvent is added, maintaining records of solvent additions, and submitting a compliance certification with the semiannual report required by R307-343-9[~~(3)~~](2).

(A) The compliance certification shall state that compliant sealers and topcoats, as determined by the [~~volatile organic compound~~]VOC content of the finishing material in the reservoir, have been used during the semiannual reporting period. Additionally, the certification shall state that the viscosity of the finishing material in the reservoir has not been less than the viscosity of the initial finishing material, that is, the material that is initially mixed and placed in the reservoir, during the semiannual reporting period.

(B) The compliance certification shall be signed by a responsible official.

(C) An affected source is in violation of the standard when a sample of the finishing material as applied exceeds the applicable limit established in R307-343-4(1)(a), (b), or (c), as determined using EPA Method 24 or an alternate or equivalent method, or the viscosity of the finishing material in the reservoir is less than the viscosity of the initial finishing material.

(c) Each owner or operator of an affected source subject to the provisions of R307-343-4 that complies using a control system, capture device or control device shall demonstrate continuous compliance by installing, calibrating, maintaining, and operating the appropriate monitoring equipment according to manufacturer's specifications.

(i) Where a capture or control device is used, a device to

monitor the site-specific operating parameter established in accordance with R307-343-6(3)(c)(i) is required.

(ii) Where an incinerator is used, a temperature monitoring device equipped with a continuous recorder is required.

(A) Where a thermal incinerator is used, a temperature monitoring device shall be installed in the firebox or in the ductwork immediately downstream of the firebox in a position before any substantial heat exchange occurs.

(B) Where a catalytic incinerator equipped with a fixed catalyst bed is used, temperature monitoring devices shall be installed in the gas stream immediately before and after the catalyst bed.

(C) Where a catalytic incinerator equipped with a fluidized catalyst bed is used, a temperature monitoring device shall be installed in the gas stream immediately before the bed. In addition, a pressure monitoring device shall be installed to determine the pressure drop across the catalyst bed. The pressure drop shall be measured monthly at a constant flow rate.

(iii) Where a carbon adsorber is used, one of the following monitoring devices shall be used:

(A) An integrating regeneration stream flow monitoring device having an accuracy of plus or minus 10 percent, capable of recording the total regeneration stream mass flow for each regeneration cycle; and a carbon bed temperature monitoring device having an accuracy of plus or minus one percent of the temperature being monitored expressed in degrees Celsius, or plus or minus 0.5 C, whichever is greater, capable of recording the carbon bed temperature after each regeneration and within fifteen minutes of completing any cooling cycle;

(B) An organic monitoring device, equipped with a continuous recorder, to indicate the concentration level of organic compounds exiting the carbon adsorber; or

(C) Any other monitoring device that has been approved by the executive secretary as allowed under (vi) below.

(iv) Each owner or operator of an affected source shall not operate the capture or control device at a daily average value greater than or less than the operating parameter value, as defined in the plan required by R307-343-6(3)(c)(i). The daily average value shall be calculated as the average of all values for a monitored parameter recorded during the operating day.

(v) Each owner or operator of an affected source that complies through the use of a catalytic incinerator equipped with a fluidized catalyst bed shall maintain a constant pressure drop, measured monthly, across the catalyst bed.

(vi) An owner or operator using a control device not listed in R307-343-6(3)(c) shall submit to the executive secretary a description of the device, test data verifying the performance of the device, and appropriate operating parameter values that will be monitored to demonstrate continuous compliance with the standard. Use of this device to demonstrate compliance is subject to the executive secretary's approval.

(vii) The owner or operator shall submit a compliance certification with the semiannual report required by R307-343-9(3).

(A) The compliance certification shall state that, during the semiannual reporting period, the monitoring plan has been followed and the operating requirements included in the monitoring plan have been met. If the plan has not been followed, or the operating requirements have not been met, the compliance certification shall identify the dates of noncompliance and the reasons for noncompliance.

(B) The compliance certification shall be signed by a responsible official.

(d) Each owner or operator of an affected source subject to the work practice standards in R307-343-5 shall demonstrate continuous compliance by following the work practice implementation plan and submitting a compliance certification with the semiannual report required by R307-343-9[~~(3)~~](2).

(i) The compliance certification shall state that the work practice implementation plan was followed, or should otherwise identify the periods of noncompliance with the work practice standards.

(ii) The compliance certification shall be signed by a responsible official.

R307-343-7. Performance Test Methods.

(1) The EPA Method 24 (40 CFR 60) shall be used to determine the [~~volatile organic compound~~]VOC content and the solids content by weight of the finishing materials as supplied by the manufacturer. The owner or operator of the affected source may request approval from the executive secretary to use an alternate or equivalent method for determining the [~~volatile organic compound~~]VOC content of the finishing material. Batch formulation information may be accepted by the executive secretary if the source demonstrates that a finishing material does not release [~~volatile organic compound~~]VOC reaction byproducts during the cure. If the EPA Method 24 value is higher than the source's formulation data, the EPA Method 24 test shall govern. Sampling procedures shall follow the guidelines in "Standard Procedures for Collection of Coating and Ink Samples for [~~volatile organic compound~~]VOC Content Analysis by Reference Method 24 and Reference Method 24A," EPA-340/1-91-010.

(2) Each owner or operator using a control system to demonstrate compliance shall determine the overall control efficiency of the control system as the product of the capture and control device efficiencies, using the test methods cited in (3) below and the procedures in (4) or (5) below.

(3) Each owner or operator using a control system shall demonstrate initial compliance using the procedures in (a) through (f) below.

(a) The EPA Method 18, 25, or 25A shall be used to determine the [~~volatile organic compound~~]VOC concentration of gaseous air

streams. The test shall consist of three separate runs, each lasting a minimum of 30 minutes.

(b) The EPA Method 1 or 1A shall be used for sample and velocity traverses.

(c) The EPA Method 2, 2A, 2C, or 2D shall be used to measure velocity and volumetric flow rates.

(d) The EPA Method 3 shall be used to analyze the exhaust gases.

(e) The EPA Method 4 shall be used to measure the moisture in the stack gas.

(f) The EPA Methods 2, 2A, 2C, 2D, 3, and 4 shall be performed, as applicable, at least twice during each test period.

(4) Each owner or operator using a control system to demonstrate compliance with R307-343 shall use the procedures in (a) through (f) below.

(a) Construct the overall [~~volatile organic compound~~]VOC control system so that volumetric flow rates and [~~volatile organic compound~~]VOC concentrations can be determined by the test methods specified in R307-343-7(3);

(b) Measure the capture efficiency from the affected emission points by capturing, venting, and measuring all [~~volatile organic compound~~]VOC emissions from the affected emission points. To measure the capture efficiency of a capture device located in an area with nonaffected [~~volatile organic compound~~]VOC emission points, the affected emission points shall be isolated from all other [~~volatile organic compound~~]VOC sources by one of the following methods:

(i) Build a temporary total enclosure around the affected emission points;

(ii) Shut down all nonaffected [~~volatile organic compound~~]VOC emission points and continue to exhaust fugitive emissions from the affected emission points through any building ventilation system and other room exhausts such as drying ovens. All exhaust air must be vented through stacks suitable for testing; or

(iii) Use another methodology approved by the executive secretary provided it complies with the EPA criteria for acceptance under 40 CFR Part 63, Appendix A, Method 301.

(c) Operate the control system with all affected emission points connected and operating at maximum production rate;

(d) Determine the efficiency of the control device using Equation 4;

(e) Determine the efficiency of the capture system using Equation 5;

(f) Compliance is demonstrated if the overall control efficiency in Equation 6 is greater than or equal to the overall control efficiency calculated by Equation 3, in accordance with R307-343-6(2)(b)(i).

(5) An alternate to the compliance method presented in (4) above is the installation of a permanent total enclosure.

(a) Each affected source that complies using a permanent

total enclosure shall demonstrate that the total enclosure meets the following requirements:

(i) The total area of all natural draft openings shall not exceed five percent of the total surface area of the enclosure's walls, floor, and ceiling;

(ii) All sources of emissions within the enclosure shall be a minimum of four equivalent diameters away from each natural draft opening;

(iii) Average inward face velocity (FV) across all natural draft openings shall be a minimum of 3,600 meters per hour or 200 feet per minute as determined by the following procedures:

(A) All forced makeup air ducts and all exhaust ducts are constructed so that the volumetric flow rate in each can be accurately determined by the test methods and procedures specified in (3)(b) and (3)(c) above. Volumetric flow rates shall be calculated without the adjustment normally made for moisture content; and

(B) Determine face velocity by Equation 7:

(iv) All access doors and windows whose areas are not included as natural draft openings and are not included in the calculation of face velocity shall be closed during routine operation of the process.

(b) Determine the control device efficiency using Equation 4, and the test methods and procedures specified in R307-343-7(3).

(c) For a permanent total enclosure, the capture efficiency in Equation 5 is equal to one.

(d) For owners or operators using a control system to comply with the provisions of R307-343, compliance is demonstrated if:

(i) The capture efficiency of the enclosure is determined to equal one; and

(ii) The overall efficiency of the control system calculated by Equation 6 in accordance with (4) above is greater than or equal to the overall efficiency of the control system calculated by Equation 3 in accordance with R307-343-6(2)(b).

R307-343-8. Recordkeeping Requirements.

(1) The owner or operator of an affected source subject to the emission limits in R307-343-4 shall maintain records of the following:

(a) A certified product data sheet for each finishing material and strippable booth coating subject to the emission limits in R307-343-4;

(b) The [~~volatile organic compound~~]VOC content, kilograms of [~~volatile organic compound~~]VOCs per kilogram of solids, as applied, of each finishing material and strippable booth coating subject to the emission limits in R307-343-4, and copies of data sheets documenting how the as applied values were determined.

(2) The owner or operator of an affected source following the compliance procedures of R307-343-6(4)(b) shall maintain the records required by (1) above and records of solvent and finishing material additions to the continuous coater reservoir and

viscosity measurements.

(3) The owner or operator of an affected source following the compliance method of R307-343-6(2)(b) shall maintain the following records:

(a) Copies of the calculations to demonstrate that the control system achieves emission control equivalent to the requirements of R307-343-4(1)(a) or (b), as well as the data that are necessary to support the calculation of the emission limit in Equation 3 and the calculation of overall control efficiency in Equation 6;

(b) Records of the daily average value of each continuously monitored parameter for each operating day. If all recorded values for a monitored parameter are within the range established during the initial performance test, the owner or operator may record that all values were within the range rather than calculating and recording an average for that day; and

(c) Records of the pressure drop across the catalyst bed for sources complying with the emission limitations using a catalytic incinerator with a fluidized catalyst bed.

(4) The owner or operator of an affected source subject to the work practice standards in R307-343-5 shall maintain onsite the work practice implementation plan and all records associated with fulfilling the requirements of that plan, including:

(a) Records demonstrating that the operator training program is in place;

(b) Records maintained in accordance with the inspection and maintenance plan;

(c) Records associated with the cleaning solvent accounting system;

(d) Records associated with the limitation on the use of conventional air spray guns showing total finishing material usage and the percentage of finishing materials applied with conventional air spray guns for each semiannual reporting period;

(e) Records showing the [~~volatile organic compound~~]VOC content of compounds used for cleaning booth components, except for solvent used to clean conveyors, continuous coaters and their enclosures, or metal filters; and

(f) Copies of logs and other documentation to demonstrate that the other provisions of the work practice implementation plan are followed.

(5) In addition to the records required by R307-343-8(1) of this section, the owner or operator of an affected source that complies using the provisions of R307-343-6(2)(a) or R307-343-5 shall maintain a copy of the compliance certifications submitted in accordance with R307-343-9[~~(3)~~](2) for each semiannual period following the compliance date.

(6) The owner or operator of an affected source shall maintain a copy of all other information submitted with the initial status report required by R307-343-9[~~(2)~~](1) and the semiannual reports required by R307-343-9[~~(3)~~](2).

(7) The owner or operator of an affected source shall

maintain all records for a minimum of five years.

R307-343-9. Reporting Requirements.

(1) [~~The owner or operator of an affected source using a control system to fulfill the requirements R307-343 is subject to R307-214-2(1) in which the reporting requirements of 40 CFR Part 63, subpart A are incorporated by reference.~~] The owner or operator of any new source subject to R307-343 that complies using the procedures established in R307-343-6(2)(a) shall submit an initial compliance report within 60 days of initial startup. The owner or operator of a new source subject to R307-343 that complies using the procedures established in R307-343-6(2)(b) shall submit an initial compliance report within 180 days of initial startup. Each initial compliance report shall include the items required by R307-343-6(3).

(2) The owner or operator of an affected source subject to R307-343 and demonstrating compliance in accordance with R307-343-6(2)(a) or (b) shall submit a semiannual report covering the previous six months of wood furniture manufacturing operations.

(a) Reports shall be submitted on January 2 and July 2 each year.

(b) Each semiannual report shall include the information required by R307-343-6(4), a statement of whether the affected source was in compliance or noncompliance. If the affected source was not in compliance, the measures taken to bring the affected source into compliance shall be reported.

R307-343-10. Compliance Schedule.

[~~(1)~~]All sources within any newly designated nonattainment area for ozone shall be in compliance with this rule within 180 days of the effective date of designation to nonattainment.[

~~(2) New sources shall submit the following compliance documentation within 60 days of initial startup:~~

~~(a) Workplace practice implementation plan as required in R307-343-5(1)(a); and~~

~~(b) Initial compliance documentation as required in R307-343-6(3).~~]

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